

Serial No. 10/083,949
Attorney Docket No. 67008-040/S-5449/5452

REMARKS

The Examiner has rejected claims 1, 2 and 5-8 as obvious over Hodgson (US 5,526,292) in view of Uchiumi Jun (Abstract of JP 2001020789). The Examiner indicates that Hodgson does not disclose adding a dither signal to each of a plurality of control commands, but that it would be obvious to modify Hodgson in view of Jun to meet the terms of claims 1, 2 and 5-8. Applicant respectfully disagrees for the reasons set forth below. There is no motivation or suggestion for modifying Hodgson in accordance with Jun in this manner. Further, even if Hodgson were modified in accordance with the teachings of Jun, the modified Hodgson system would not meet the terms of claim 1.

Hodgson discloses an Active Noise and Vibration Cancellation ("ANVC") system. Jun discloses a speed control system for an internal combustion engine. Jun discloses that some actuators for adjusting fuel supply have a "dead zone" - - that is, a zone within which the system cannot change the input to reach the desired output. To compensate, Jun discloses adding a dither signal current on the exciting current of the actuator. The actuators in Hodgson (speakers) do not have the same "dead zone" problem as do the fuel supply actuators in the Jun system. Thus, the motivation offered by Jun for using a dither signal (to control actuators with dead zone problems) is not applicable to the speakers in the ANVC system in Hodgson. For this same reason, Jun does not suggest that the dither signal could be used with ANVC systems.

Additionally, even if Hodgson were somehow modified in accordance with the teachings of Jun, neither Jun nor Hodgson disclose "measuring a response to a dither signal" or, more importantly, "updating the estimate of the relationship" based upon the measured response to the dither signal, as required by claim 1. Therefore, even if

Serial No. 10/083,949
Attorney Docket No. 67008-040/S-5449/5452

Hodgson were somehow modified in accordance with Jun, it would not meet the terms of claim 1.

The Examiner has rejected claims 9-12 as anticipated by Hodgson. Claim 9 specifies "varying the size of the update . . . based upon a magnitude of change over time by at least one of the plurality of control commands." The Examiner states that Hodgson varies the size of the update based upon "a magnitude of change over time," referring to a "relative magnitude of a broadband signal emanating from a vibrational energy source to a controller." Applicant disagrees with this characterization of Hodgson; however, the Examiner does not even suggest that Hodgson discloses basing the size of the update on a magnitude of change by at least one of the control commands. Therefore, claim 9 is patentable.

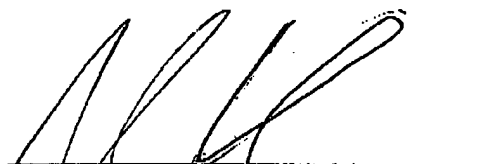
The Examiner has rejected claims 16 and 17 as anticipated by Hodgson. Applicant has amended claim 16 to include all of the elements of allowable claim 18, including intervening claim 17.

Serial No. 10/083,949
Attorney Docket No. 67008-040/S-5449/5452

Please charge \$504 for three additional independent claims and 14 total claims in excess of twenty to Deposit Account No. 50-1482. If any additional fees or extensions of time are required, please charge to Deposit Account No. 50-1482.

Respectfully submitted,

CARLSON, GASKEY & OLDS



John E. Carlson
Registration No. 37,794
400 W. Maple, Suite 350
Birmingham, MI 48009
(248) 988-8360

Dated: _____

FAX RECEIVED

JUL 16 2003

TECHNOLOGY CENTER 2800